Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

Pacific Reef Assessment and Monitoring Program: Stratified Random Surveys (StRS) of Reef Fish, including Benthic Estimate Data at Coral Reef Sites across the Pacific Ocean from 2008 to 2012

1.2. Summary description of the data:

The stationary point count (nSPC) method is used to conduct reef fish surveys in the Hawaiian and Mariana Archipelagos, American Samoa, and the Pacific Remote Island Areas as part of NOAA's Pacific Reef Assessment and Monitoring Program (Pacific RAMP) . The nSPC method catalogs the diversity (species richness), abundance (numeric density) , and biomass (fish mass per unit area) of diurnally active reef fish assemblages in shallow-water (less than 30 m) hard-bottom habitats. Visual estimates of benthic cover and topographic complexity are also recorded, with benthic organisms grouped into broad functional categories (e.g., 'Hard Coral', 'Macroalgae'). A stratified random sampling (StRS) design is employed to survey the coral reef ecosystems throughout the U. S.-Pacific regions. For all regions, the survey domain encompasses the majority of the mapped area of reef and hard bottom habitats and the stratification includes island, reef zone, and depth, with the exception of the Main Hawaiian Islands that includes habitat structure type as well. Sampling effort is allocated based on strata area and variability.

Stationary Point Counts (nSPC) is one of non-invasive underwater-survey methods to enumerate the diverse components of diurnally active shallow-water reef fish assemblages. At each REA survey site, 1 or 2 nSPC fish surveys are conducted, with each survey being carried out by a pair of divers each recording the number, size and species of all fishes within adjacent 15m diameter cylinders. Beginning in 2010, at the end of the fish surveys, divers visually estimated benthic cover and habitat structural complexity.

Reef fish and benthic estimate data collected during nSPC surveys can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2009-04-18 to 2009-05-05, 2009-04-05 to 2009-04-14, 2011-04-07 to 2011-05-09, 2011-06-06 to 2011-06-17, 2010-02-17 to 2010-03-21, 2012-03-21 to 2012-04-26, 2008-02-18 to 2008-03-18, 2010-10-08 to 2010-11-04, 2012-09-01 to 2012-09-13, 2010-11-17 to 2010-12-08, 2010-09-07 to 2010-09-24, 2010-04-01 to 2010-04-19, 2012-03-02 to 2012-03-17, 2012-05-03 to 2012-05-19, 2011-03-23 to 2011-03-27, 2009-03-22 to 2009-03-26, 2010-01-24 to 2010-02-08, 2008-01-27 to 2008-02-09, 2008-03-26 to 2008-04-07

1.5. Actual or planned geographic coverage of the data:

W: 144.6259167, E: 145.8529194, N: 20.5532, S: 13.22989
Mariana Archipelago

W: -171.09241, E: -168.1377728, N: -11.04524, S: -14.88716
American Samoa

W: -160.2094899, E: -154.8527585, N: 22.24683668, S: 18.96924701
Main Hawaiian Islands

W: -178.382783, E: -166.0505021, N: 28.45271339, S: 23.63130011
Northwestern Hawaiian Islands

W: -176.6267073, E: -159.9714753, N: 16.782, S: -0.38256
Pacific Remote Island Areas (excluding Wake Atoll)

W: 166.6128398, E: 166.62753, N: 19.30485522, S: 19.29172
Wake Atoll

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Table (digital)

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)
Instrument: Not applicable
Platform: Not applicable
Physical Collection / Fishing Gear: Not applicable

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:

Annette M DesRochers

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
Pacific Islands Fisheries Science Center

2.4. E-mail address:
annette.desrochers@noaa.gov

2.5. Phone number:
(808)725-5461

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:
Paula M Ayotte

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?
Yes

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):
Unknown

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):
Lineage Statement:
Stationary Point Count survey of coral reef fish methodology, employed by the NOAA Coral Reef Ecosystem Program (CREP) since 2007.

Process Steps:
- For the current NOAA Coral Reef Ecosystem Program (CREP) stationary point count (SPC) method, pairs of divers record the number, size, and species of all fishes observed within visually estimated cylinders 15 meters (m) in diameter. At the start

of a survey dive, a pair of divers first lay down a 30-m transect line along a predetermined depth contour, and then the two divers move to the 7.5- and 22.5-m marks on that line; these marks serve as the centers of two adjacent SPC cylinders. During the first 5 minutes of a survey, the divers create a list of the fish species observed in or passing through their cylinder. After the first 5 minutes, divers systematically proceed down their species lists, counting and estimating the size (total length, or TL) of each fish present to the nearest centimeter. Species seen after the 5 minutes or outside of the survey area are recorded as present. On completing the fish count, divers make rapid visual estimates of benthic cover and structural complexity of the substrate within their survey cylinder. Benthic cover is estimates for broad functional group leg Hard Coral, Sand, Macroalgae) and structural complexity is made by estimating amount of the cylinder within 5 substrate-height bins (<20cm, 20-50; 50-100; 100-150, >150cm). (Citation: Ayotte, P., K. McCoy, A. Heenan, I. Williams, and J. Zamzow. 2015. Coral Reef Ecosystem Division standard operating procedures: data collection for Rapid Ecological Assessment fish surveys. Pacific Islands Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96818-5007. Pacific Islands Fish. Sci. Cent. Admin. Rep. H-15-07, 33 p.)
- 2010: Benthic estimates and collection of benthic photos both began during ASRAMP. 2010: divers begin recording instantaneous and non-instantaneous data for fish counts 2012: divers begin recording urchin abundance 2012: divers change benthic substrate complexity measurements from 5-point scale to proportion of substrate in various height bins. mid-2012: divers add fish observations to include fish entering the survey area either 5 or 10 min after beginning of species enumeration period.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):
Observations, including species identification and sizing, are periodically checked during expeditions for consistency between divers. Data entry is usually conducted on the same day as the surveys using a data entry interface with several data controls employed, and are quality controlled by the divers using a two-person system. Following a mission, the data is then run through rigorous quality control checks by the data management team before the data are migrated to the Oracle database. Given the size of the data set, there remains some possibility of typographical or other errors.

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

Yes

6.1.1. If metadata are non-existent or non-compliant, please explain:

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://inport.nmfs.noaa.gov/inport/item/34515

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NMFS Data Documentation Procedural Directive: http://www.nmfs.noaa.gov/op/pds/documents/04/111/04-111-01.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?
Yes

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:
National Centers for Environmental Information - Silver Spring, Maryland

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
https://www.pifsc.noaa.gov/library/pubs/admin/PIFSC_Admin_Rep_11-08.pdf
http://accession.nodc.noaa.gov/0162472

7.3. Data access methods or services offered:

Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.

7.4. Approximate delay between data collection and dissemination:
Unknown

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)
NCEI-MD

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Pacific Islands Fisheries Science Center - Honolulu, HI

8.3. Approximate delay between data collection and submission to an archive facility:
Unknown

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection
NOAA IRC and NOAA Fisheries ITS resources and assets.

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.